United States Patent [19]

Kitts

[11] **3,816,899**

[45] **June 18, 1974**

[54] **LOCK CORE PULLER FOR SPRING RETAINED LOCKS**

[76] Inventor: **George J. Kitts,** 38 Queenlily, Levittown, Pa. 19057

[22] Filed: **May 30, 1972**

[21] Appl. No.: **257,499**

[52] **U.S. Cl.** ..... **29/263,** 81/3 R
[51] **Int. Cl.** **B23p 19/04**
[58] **Field of Search** ..... 81/3 R; 29/234, 256, 258, 29/263, 264

[56] **References Cited**

UNITED STATES PATENTS

1,535,012	4/1925	Zeller	29/263 X
1,629,003	5/1927	Schonfeld	29/264
2,906,148	9/1959	Mikeska	81/3 R

FOREIGN PATENTS OR APPLICATIONS

15,450	0/1900	Great Britain	29/263
1,078,241	5/1954	France	29/264

Primary Examiner—Al Lawrence Smith
Assistant Examiner—Roscoe V. Parker

[57] **ABSTRACT**

A device for removing a spring retained lock core from a lock without damage thereto comprising a threaded shaft having at one end a bit to be inserted in the keyway past a couple of lock pins, and a threaded crank on the other end adapted to bear on a pressure plate to withdraw the bit, lock mechanism and lock core from the lock.

6 Claims, 5 Drawing Figures

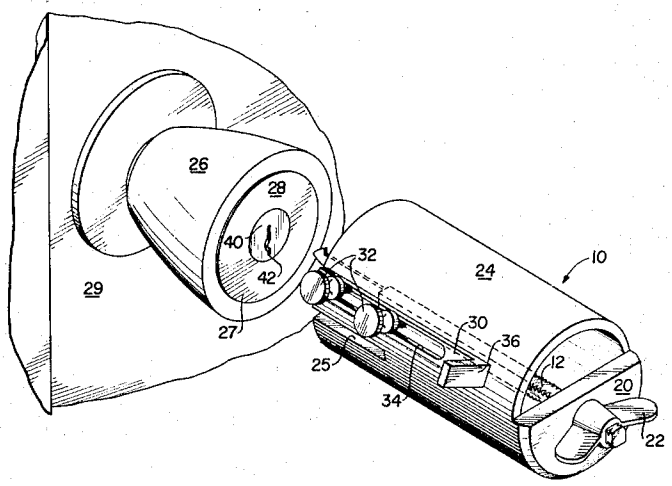


FIG.1

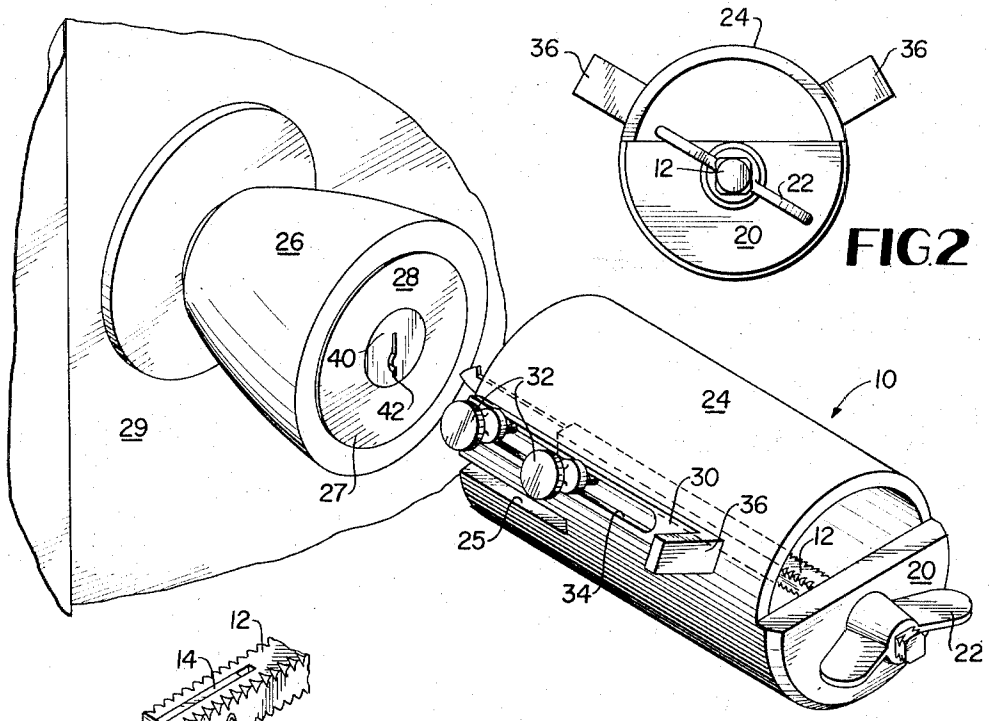


FIG.2

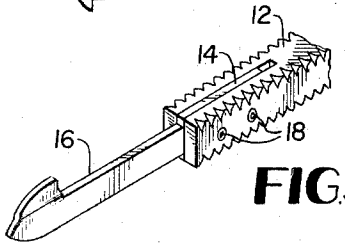


FIG.3

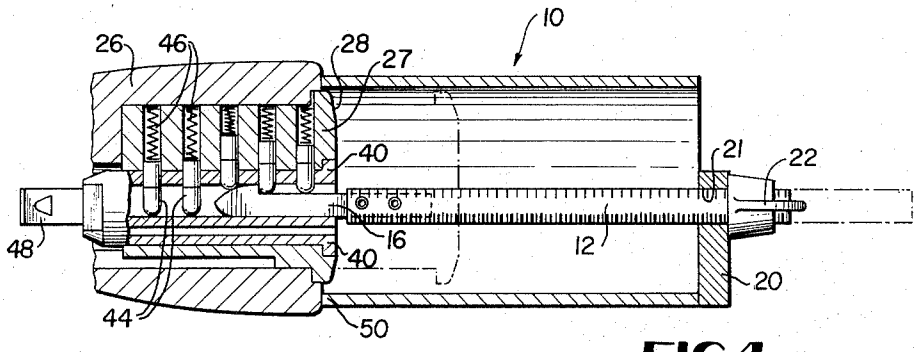


FIG.4

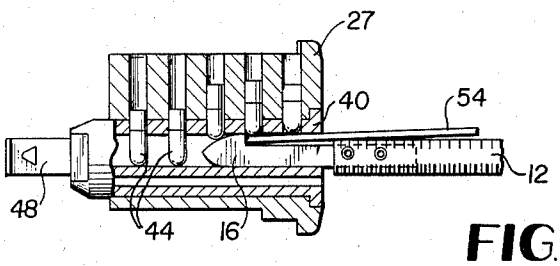


FIG.5

LOCK CORE PULLER FOR SPRING RETAINED LOCKS

SPECIFICATION

This invention relates generally to means for pulling the cores of locks and more particularly to a simple but effective device for removing the spring retained cylinder and core of cylinder and the cores of other locks without damage thereto.

Various means are known in the art for forcing locks to gain entry to rooms, cabinets, automobiles, etc. and these are objectionable in that they require the services of a locksmith, result in damage to the lock or a component thereof, or are as unavailable as the key to the lock.

Accordingly, the main object of the present invention is to provide a simple, effective device for pulling the spring retained cylinders and cores of cylinder locks and cores of other locks without damage thereto.

An important object of the present invention is to provide a device of the type described wherein its core pulling tip is readily interchangeable so as to pull the spring retained cores of various types of cylinder locks.

Another important object of the present invention is to provide an improved device for removing the spring retained cores of various types of locks which can be readily detached from the lock core after its removal from its cylinder.

Other objects and advantages of the present invention will become apparent during the course of the following description.

In the drawings, I have shown one embodiment of the invention. In this showing:

FIG. **1** is a perspective view of the core-pulling device showing its core pulling tip about to enter the keyway of the core of a cylinder lock of the door knob of a closure;

FIG. **2** is an elevational view of the outer end of the core-pulling device comprising the present invention;

FIG. **3** is a fragmentary perspective view of the threaded shaft detachably mounting one of several types of bits for pulling the spring retained cores of cylinder locks;

FIG. **4** is a central, vertical, longitudinal sectional view of the invention in operative position with its bit behind a pair of cylinder core pins and ready to pull the core and cylinder from the knob; and

FIG. **5** is a similar view of a pick employed to raise the pins of a core to effect removal of the bit of the core puller from the core after its removal.

Referring to the drawings, numeral **10** designates the lock core puller as a whole which comprises a rectangular threaded shaft **12** having a slot **14** for the detachable reception of one of several types of bits **16** as by pins **18**, a pressure plate **20**, and a threaded wing nut **22** on the outer end of shaft **12**.

The portion of the pressure plate **20** shown which may be of any desired shape, is preferably semi-circular to enable the operator to see the bit **16** as he guides it to a keyway and is provided with a threaded bolt-receiving aperture **21** of larger diameter than the shaft **12**. The pressure plate portion **20** is fixed to the outer end of an open ended cylinder **24** which is the pressure plate proper, and is of a diameter sufficiently great to fit against the face **28** of a lock or door knob **26** having a cylinder lock or over it to bear against the face of a door, etc. **29** to afford the bearing for the pressure plate **20**. Where a closure **29** is provided with an L-handle or T-handle as is the case on many storage cabinets, a steady bearing for the cylinder **24** is attained by a pair of adjustable legs **30** which are mounted on opposite sides of the cylinder **24** by means of spaced knurled head screws **32** projecting through the slot **34** in the legs **30**. The legs are readily slid to the bearing face of a lock or closure when the cylinder **24** is placed against the L or T-shaped closure handle (not shown), by means of outturned leg flanges **36**. The cylindrical cylinder **24** is provided with opposed open slots **25** on each side to accommodate the elongated ears of certain locks.

As stated, the device comprising the present invention is suitable for use with locks having spring retained cores of which there are a number of effective and popular makes. As shown in the drawings, a cylinder lock **27** having an outer face **28** may be mounted in a knob **26** of a closure **29** or in the L or T-shaped handles thereof. Conventionally, a cylinder lock **27** of the pin tumbler mechanism type is provided with a tightly fitting core **40** having a keyway **42** into which a plurality of tumbler pins **44** are projected by springs **46**. Each pin has one or two parts so that when the proper key is inserted into the keyway **42**, each pin is at the proper elevation within the core to enable the latter to turn freely and rotate the main body lock shank to withdraw a latch. The core **40** and the cylinder lock **27** are attached to the end of the lock shank (not shown) by a strong horse-shoe shaped spring **48**.

In use, when the device **10** comprising the present invention is utilized to withdraw a spring-retained core **40** and its lock cylinder **27**, the inner end **50** of the open cylindrical bearing plate **24** is positioned against the outer surface **28** of the lock cylinder or door knob **26** (FIGS. **1** and **4**) or over the knob and against the surface **29** of a closure. During this positioning, the tip or bit **16** is visually guided from the outer end of the cylinder **24** so as to enter the keyway **42** until a minimum of **2** pins **44** are passed. The wing nut **22** is now tightened against the bearing plate end portion **20** and the direct line pull of the shaft and tip overcome the tensions of the horse-shoe shaped spring **48** and withdraws the core **40** and the lock cylinder **27** from the knob **26**. A pair of pliers may now be used to turn the lock shank. To remove the bit **16** from the core, a locksmith's metal pick **54** is employed to raise the pins **44** to permit withdrawal.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departure from the spirit of the invention or the scope of the subjoined claims.

What is claimed is:

1. A device for removing a spring retained core from a lock comprising an open-ended bearing cylinder having one end adapted to bear against the surface of a lock; a pressure plate having an aperture therein fixed to and partially closing the other end of said cylinder to form a viewing opening; a square threaded shaft extending through said aperture in alignment with the keyway of the core; an elongated tip terminating in an upwardly extending flange including a rearwardly facing shoulder detachably mounted to one end of said shaft for insertion into the keyway to engage behind a

lock pin; and a nut mounted on the other end of said threaded shaft and engageable with said pressure plate to withdraw the core from the lock upon rotation of said nut.

2. A device for removing a spring retained core from a lock comprising, in combination, an open-ended bearing cylinder having one end adapted to be placed over closure knobs and handles and against bearing surfaces containing lock cores; a pressure plate having an aperture therein fixed to and partially closing the other end of said cylinder to form a viewing opening; a square threaded shaft of smaller diameter than said aperture extending therethrough in alignment with the keyway of the core; an elongated tip terminating in an upwardly extending flange including a rearwardly facing shoulder detachably mounted on the inner end thereof for insertion into the keyway to engage behind

a tumbler pin of the core; and a nut threadedly mounted on said threaded shaft and engageable upon rotation with the outer surface of said pressure plate to overcome the tension of the spring and withdraw the core of said lock therefrom.

3. The combination recited in claim **1**; and a leg mounted on said bearing cylinder as a supplement thereto.

4. The combination recited in claim **3** wherein said leg is adjustable to adapt said bearing cylinder to various bearing surfaces.

5. The combination recited in claim **2**; and a leg mounted on said bearing cylinder for steadying it against closure and lock surfaces.

6. The combination recited in claim **5** wherein said leg is adjustable.

* * * * *